
2 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

This chapter describes the two alternatives considered in the EA:

- **The Proposed Action** – consisting of the construction and operation of fuel oil and gasoline delivery, storage and distribution facilities, water storage and distribution facilities, and an underground electrical duct bank.
- **The No Action Alternative** – no construction and operation of fuel oil and gasoline delivery, storage and distribution facilities, water storage and distribution facilities, or underground electrical duct bank.

The project proponent considered two alternative sites for the fuel oil and gasoline delivery, storage and distribution facilities, and two alternative sites for the water storage and distribution facilities before selecting appropriate sites. The alternative sites were rejected as unreasonable on the basis of a number of disadvantages (Subchapter 2.1). Subchapter 2.2 addresses the No Action Alternative, while Subchapter 2.3 describes the Proposed Action.

2.1 Site Selection

The project study area is a fenced, restricted site on Fort Belvoir, with substantial force protection infrastructure already in place. Thus, consideration of proposed action facility location alternatives were restricted therein.

The project proponent evaluated the following candidate sites for locating the fuel oil and gasoline delivery, storage and distribution facilities, and the water storage and distribution facilities:

Fuel Oil and Gasoline Delivery, Storage and Distribution

- Williams Woods Road West – The fuel oil tank farm would be located on the west side of Williams Woods Road, approximately 500 feet (ft) (150 meters [m]) north of the conditioned power plant; and the fuel delivery site would be located on the east side of Williams Woods Road, 1,000 ft (300 m) north of the conditioned power plant (Figure 2-1, The Proposed Action).
- Williams Woods Road East – Both the fuel oil tank farm and the fuel delivery site would be located on the east side of Williams Woods Road, approximately 1,000 ft (300 m) north of the conditioned power plant.

- Power Plant – Fuel oil tank farm and fuel delivery site would be located approximately 200 ft (60 m) south of the conditioned power plant, to the east of Williams Woods Road.

Water Storage and Distribution

- North Parking Structure – Water storage and distribution facilities would be located approximately 100 ft (30 m) north of the north parking structure, 200 ft (60 m) east of Old Beulah Street (Figure 2-1).
- North Antenna – Water storage and distribution facilities would be located northeast of the North Antenna Tower, approximately 700 ft (200 m) west of Williams Woods Road.
- Power Plant – Water storage and distribution facilities would be located between Williams Woods Road and the conditioned power plant.

Each of the sites presented both certain advantages as well as disadvantages with respect to facilitating implementation and assuring the success of the Proposed Action. The fuel delivery and storage sites selected – Williams Woods Road West – possessed the best combination of: low environmental impact (minimal disturbance because next to road and away from wetlands in the area); location near truck entrance for fuel truck accessibility; and away from buildings and people for safety and security. The water storage site selected – North Parking Structure – had the advantages of: being elevated to reduce pumping; accommodating dual water feed; already being disturbed for construction of the adjacent parking structure and garage; and allowing piping to traverse the nearby parking lot rather than undisturbed soils.

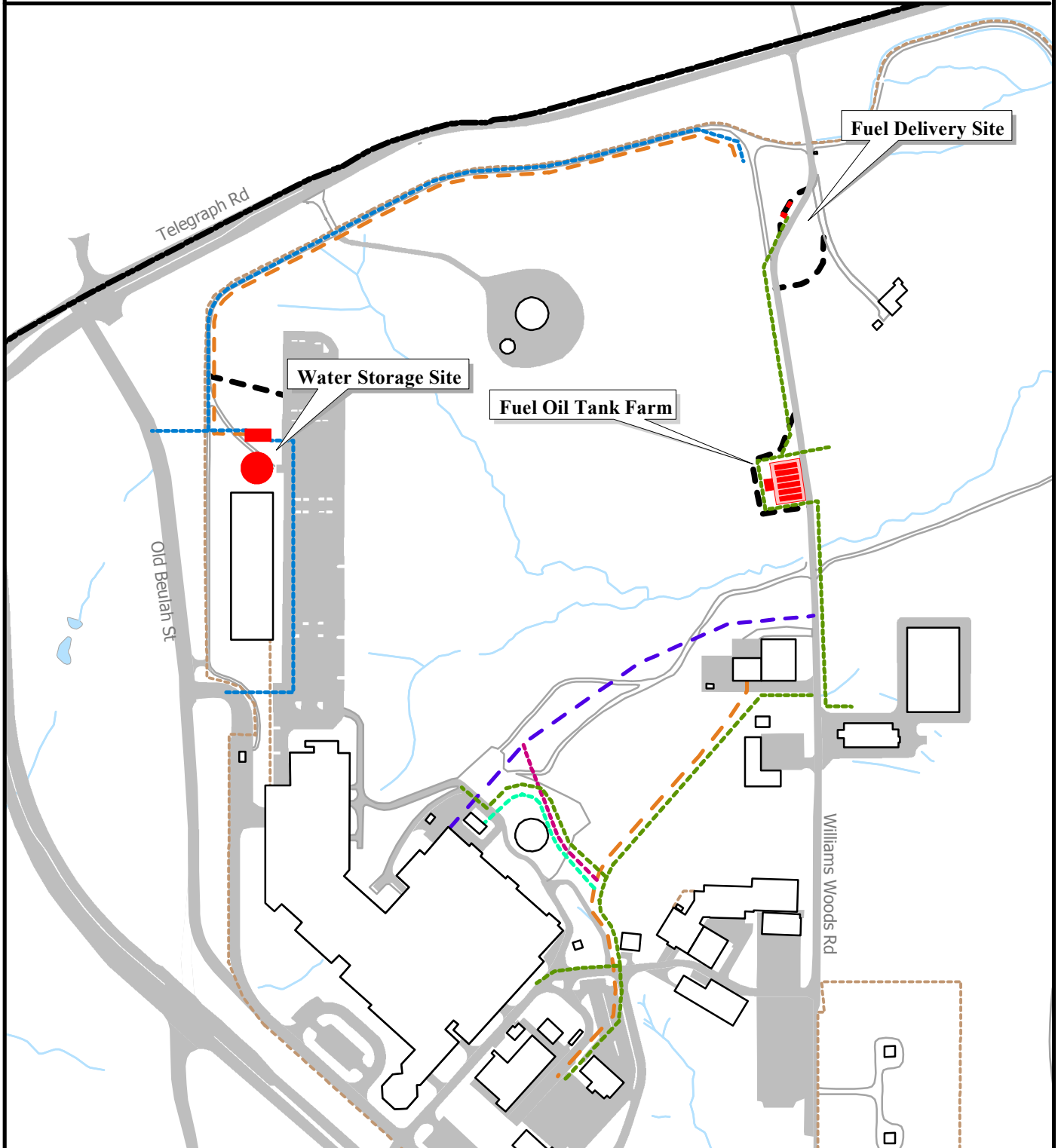
2.2 No Action Alternative

Under the No Action Alternative, the project proponent would not improve force protection infrastructure in the Project Study Area. The No Action Alternative is not considered reasonable, since current facilities are inadequate to support ongoing critical operations integral to the installation's mission. The No Action Alternative is analyzed in the EA because it provides a measure of the baseline conditions against which the impacts of the Proposed Action can be assessed.

2.3 Proposed Action

The Proposed Action is to construct and operate fuel oil and gasoline delivery, storage and distribution facilities (the Fuel Delivery Site and the Fuel Oil Tank Farm) at the Williams Woods Road west site, and construct and operate water storage and distribution facilities (the Water

The Proposed Action



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| Project Facility | Existing Building & Structure |
| Fuel Oil Pipeline | Fence |
| Electrical Duct Bank | Conventional Telephone Line |
| Water Line | Existing Communication Line |
| Proposed Road | Fiber Optic Line |

Note: The location of the Project Facilities is approximate.

Figure 2-1

Storage Site) at the north parking structure site (Figure 2-2, Project Facilities). The Proposed Action also includes the construction and operation of an underground electrical duct bank.

Construction of the proposed facilities is expected to occur over a period of approximately 15 months, from late summer 2002 through fall 2003.

2.3.1 Fuel Storage and Delivery Facilities

The fuel oil and gasoline delivery, storage and distribution facilities comprise the following two principal components: a fuel delivery site, located to the east of Williams Woods Road; and a fuel oil tank farm, located to the west of Williams Woods Road. The locations of the fuel delivery site and the fuel oil tank farm satisfy the requirement that the tank farm be located separately from the delivery site, and that future fuel oil and gasoline delivery and storage occur at a safe distance from principal facilities and occupied structures. Fuel oil and gasoline tanker trucks would access the fuel delivery site through Williams Woods Gate, at the north end of Williams Woods Road. Williams Wood Gate opens onto Telegraph Road.

The fuel delivery site would include a gasoline dispensing station, with a 5,000-gal (18,925-l) capacity underground storage tank (UST) for unleaded gasoline, which would replace an old tank now in use in the project area. The old tank would be disposed of. The gasoline station would be used for the delivery and storage of gasoline, and for dispensing gasoline to Fort Belvoir vehicles.

The fuel delivery site would also include an 10,000-gal (37,854 l) fuel oil transfer UST, sized to accept delivery of No. 2 fuel oil from 7,500-gallon (gal) (28,386-liter [l]) tanker trucks, and a fuel oil pump. The fuel would be carried from the transfer UST through a 4-by-8-inch (in) (10-by-20-centimeter [cm]) double-walled, underground, pressurized fuel oil pipe, to a 300,000-gal (1,135,530-l) capacity fuel oil tank farm (with a functional capacity of about 240,000 gal (908,496 l) located to the west of Williams Woods Road. (The double-walled pipe comprises a 4-in [10-cm] diameter inside pipe, within an 8-in [20-cm] diameter outside pipe.)

The tank farm would comprise six 50,000-gal (189,250-l) capacity fuel oil USTs and a fuel pump house. Although the combined capacity of the six USTs would be 300,000 gal (1,135,530 l), the maximum, functional capacity of the tank farm would be approximately 240,000 gal (908,496 l). When added to the 10,000 gal (37,854 l) fuel oil transfer UST at the fuel oil delivery site, the total increase in fuel oil capacity in the Project Study Area would be 250,000 gal (946,350 l).

Fuel from the tank farm would be pumped through 3-by-6-in (8-by-15-cm) double-walled, underground, pressurized fuel oil distribution pipes to existing USTs in the Project Study Area – specifically, USTs at N-Block, the utility building and the waste destruction building – primarily

for heating, but also to power the incinerator and generator plant. The fuel pump house would measure 21 ft (6 m) by 44 ft (13 m).

The fuel oil and gasoline delivery, storage and distribution facilities would include the following safeguards to prevent, detect and contain fuel leaks and spills:

- Concrete fuel delivery pad, enclosed within a berm, and equipped with oil-water separators and other controls to prevent spills. The off-loading area would have secondary containment features to hold releases from the largest fuel delivery vehicle to serve the site plus rainfall.
- Double-walled USTs equipped with inventory monitoring and leak detection systems.
- Double-walled fuel oil pipes equipped with inventory monitoring and leak detection systems.
- Fuel oil pipes buried 18 in (46 cm) below ground level, under a 2-in (5-cm) concrete cap, and marked with detectable utility tape.

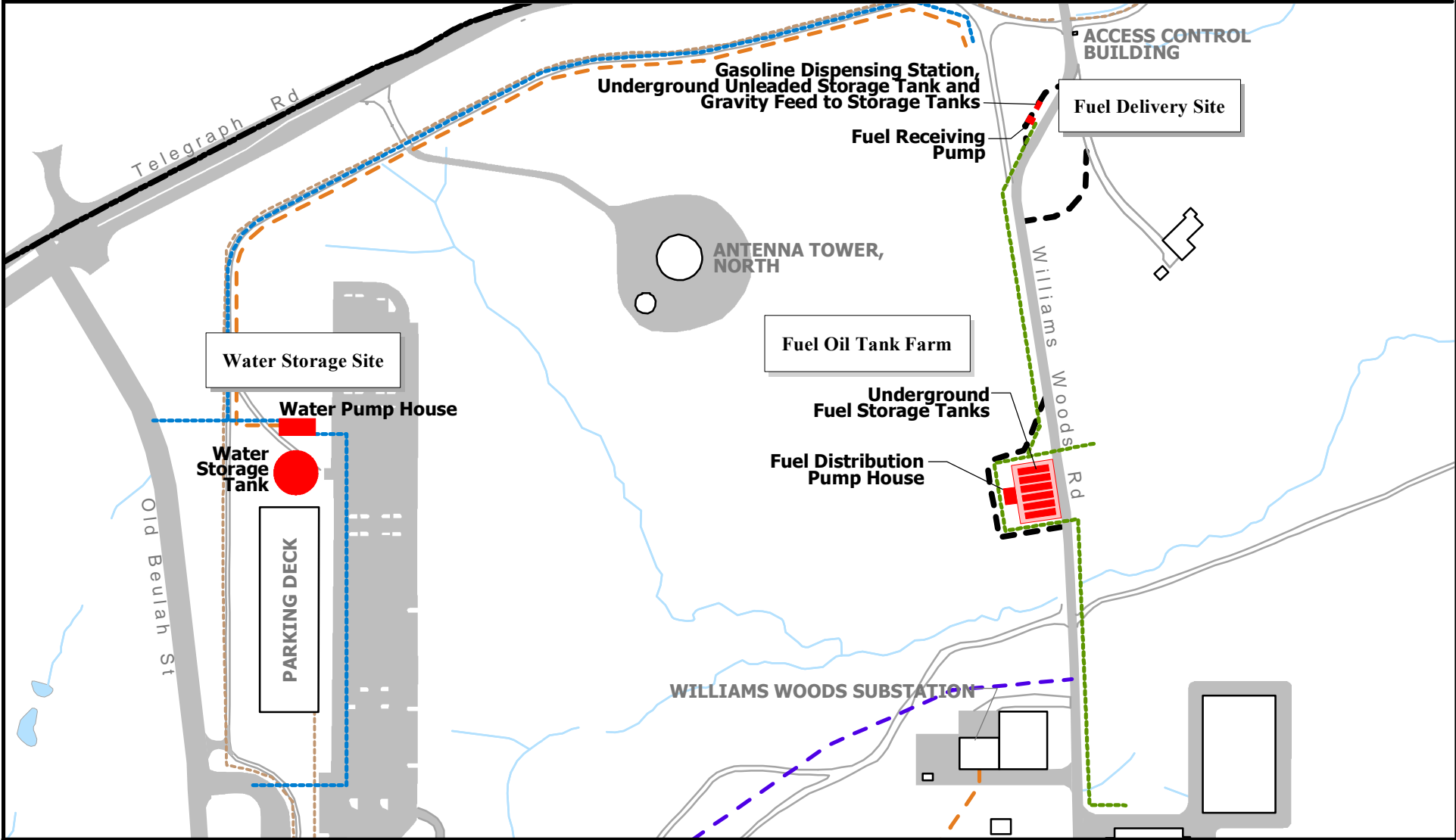
The Proposed Action would consolidate fuel delivery within the project study area. Currently, fuel oil is delivered to seven USTs, serviced by large fuel oil trucks. Under the Proposed Action, only the proposed fuel delivery site and one existing UST would be serviced by large fuel oil trucks. An additional three USTs would be serviced by small, on-site fuel oil trucks.

2.3.2 Water Storage and Distribution Facilities

The water storage site would include a 1.5 million-gal (5.68 million-l) capacity, aboveground tank of steel construction and a water pumping station. The water storage tank would be approximately 92 feet (ft) (28 meters [m]) in diameter and 40 ft (12 m) tall, and a concrete wall would surround it. A 6 to 12-in (15 to 30-cm) diameter water line, buried underground at a depth of 4 ft (1.2 m) or deeper, would supply the water storage tank from an existing 30-in (76-cm) diameter water line in Telegraph Road and an existing 14-in (36-cm) water line in Old Beulah Street. Water will pass through the new tank continuously, alleviating any potential health problems from water lingering in the tank too long. An existing 150,000 gal (567,810 l) water storage tank serving the Project Study Area will remain in active use.

The pumping equipment would be housed in a 30-ft by 70-ft (9.1-m by 21-m), 25-ft (7.6-m) tall water pump house. A standby generator in a weatherproof enclosure would be provided at the pump house as a standby power source, for use at times of interruption of normal power service. A water chlorination or treatment station would not be required as the turnover of water in the storage tank would be sufficient to make treatment unnecessary. Two 2-in (5-cm) electrical lines embedded in small duct banks would provide electrical service to the pump house and to a pump at the Telegraph Road connection.

Project Facilities



Note: The location of the Project Facilities is approximate.
Pipeline and duct bank extend to the south as depicted in Figure 2-1.

Figure 2-2



A 6 to 12-in (15 to 30-cm) diameter water line would carry water from the storage tank to the existing on-site water distribution system. The water line would be buried a minimum of 4 ft (1.2 m) underground.

2.3.3. Electrical Duct Bank

The proposed electrical duct bank would be an underground, concrete-walled vault, buried in an 18-ft (5.5-m) wide trench. The duct bank would carry electrical lines between two on-site electrical substations, enabling each substation to provide electrical power to the service area of the other substation. A fiber optic communication line and a conventional (copper) telephone line, connected to existing communication lines, would monitor and control the connection between the two substations.

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